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matters the Proceedings of the U. S. National Museum contains a description of two new races of *Myadestes obscurus*, inhabiting respectively Southwestern Mexico and Guatemala, and the Tres Marias islands, by Leonhard Stegneger, and in the same Proceedings Mr. R. Ridgway describes two new Costa Rican birds, a new fly-catcher and a supposed new petrel from the Sandwich islands, a new owl from Porto Rico, and two new thrushes from this country, one from the Rocky mountains, the other breeding in New York.——The same Proceedings contain much ichthyological news, including a paper by Professor G. B. Goode on Benthodesmus, a new genus of deep-sea Trichiuridæ, allied to Lepidopus. The species was first described as *Lepidopus elongatus*, by F. E. Clarke, from examples taken in New Zealand, and has since been found on the Great Bank of Newfoundland. Messrs. Jordan and Gilbert publish a key to the species of Pomudasys (= Pristipoma) known to inhabit the Pacific coast of tropical America, eighteen in all, including *P. cæsius*, a new species, and describe thirty-eight new species of fishes from Mazatlan, and one from San Salvador. The genus Stolephorus (Engraulis) receives four additions, Tylosaurus (Belone) two, Gobiesox four, Muræna two, Ophichthys two, Lutjanus two. Among the features of the collection described was a specimen of a Malthe and one of Fierasfer, both new. Dr. T. H. Bean gives notes upon a collection of fishes, with descriptions of new species and of a new genus (Delolepis). In the same proceedings Dr. R. W. Shufeldt gives some valuable remarks upon the osteology of *Opheosaurus ventralis*.

ENTOMOLOGY.[1]

Buffalo Tree-hopper injurious to Potatoes.—Some years ago we gave a short account of the transformations of this insect (5th Report on the Insects of Missouri, pp. 119–125). The Buffalo tree-hopper (*Ceresa bubalus* Fabr.) oviposits in young twigs of apple, pear and other trees, subsisting in its later stages upon the sap of these trees. It is a very common and widely distributed insect, but does become injurious to a serious extent. We were greatly surprised, therefore, by the recent receipt of a number of specimens from Mr. W. M. Heilman, of Annville, Pa., accompanied by the following note dated July 19th: "I mail you to-day a box of insects injurious to potato plants, and plants showing their *modus operandi*. The insects are probably a species of tree-hopper, and it seems strange to me that they should work on potatoes. They commenced work on potatoes in a young orchard about four weeks ago, and I have not found that they work or do any injury after their last molt or when they become winged. They averaged about fifteen specimens to the plant. I find no insects but these on the plants, which, after being girdled by them, turn yellow and die. The insects are not near as numerous now as a few weeks ago."—*C. V. R.*

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[1] This department is edited by Professor C. V. Riley, Washington, D. C., to whom communications, books for notice, etc., should be sent.

WOOD-BORING COLEOPTERA.—There are many Coleoptera of various families which live in the galleries made by other species in the hard wood of trees. Thus the galleries of Mallodon and other large Cerambycidæ, form the home of many other species after the original owner has left them. If these inquilines are much smaller than the maker of the gallery, there is, of course, no difficulty in recognizing them as inquilines that did not make the gallery themselves. If, however, they are nearly of the same size as the original burrower, it is difficult to decide whether or not the galleries they inhabit have been made by them. Thus Mr. Eichhoff, in his excellent work on European Scolytidæ, suspects that the genus Platypus uses the galleries made by other beetles. My own experience in the South, with the common *Platypus compositus* is as follows: When found in the thick bark of pine stumps, the larvæ doubtless bore themselves, as there is no other beetle found in their company which makes such smooth and straight galleries. If, however, they occur in hard wood, such as oak, hickory, hackberry, etc., the case appears to be different, and seems to confirm Mr. Eichhoff's statement, as I found them always associated with true boring insects, viz., *Colydium lineola* and *Sosylus costatus.* The galleries of these three species are undistinguishable, and it appears to me very probable that Platypus simply uses the old galleries made by the two Colydiid beetles just mentioned. The Histerid genus Teretrius is another instance of this sort where the inquiline can be readily mistaken for the maker of the gallery, but in this case the Teretrius is simply parasitic on Ptilinus and other boring insects. I also would call attention to the fact that Professor Riley discovered the larva of *Hemirhipus fascicularis* to be parasitic on *Cyllene picta*,[1] in whose galleries it was living. As the two species are of about the same size, the Hemirhipis might be readily taken for a true wood-borer.

Another observation bearing upon this subject I had recently occasion to make in a street in Washington, D. C. There was an old maple tree perforated on one side with numerous holes, made, I presume, by an Elaphidion or some other average-sized Cerambycid. The burrows had evidently long since been deserted by the original makers, but I saw protruding from four or five of them the heads of *Strongylium tenuicolle.* Upon investigation I found that the beetles had died in the vain effort to escape from the gallery, the entrance being much too small to let the body pass through. Now I know by experience that Strongylium is not a true boring insect, and lives only in the very soft wood of decaying trees, especially of oak. It appears to me probable, therefore, that the parent Strongylium had laid eggs at the entrance of a gallery made by a species smaller than itself, and that this mistaken instinct resulted in the death of its progeny in the manner just described.—*E. A. Schwarz, Washington, D. C.*

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[1] Vide 1st Report U. S. Entomological Commission, p. 304.

BACTERIUM A PARASITE OF THE CHINCH BUG.—In the course of some experiments made last month upon the chinch bug, I was annoyed by the rapid disappearance of the bugs under observation, which were on some hills of corn transplanted to the laboratory. Unable to find any evident cause of the phenomenon, I crushed a number of those remaining alive, and examined the fluids from their bodies under the microscope. In every case these were found to be swarming with a species of Bacterium not easily distinguishable from *B. termo.* The observations were many times repeated with every precaution against accidental infection, but with the same results. Using water freshly distilled and re-distilled, passing slides, covers and the tools used through the flame of an alcohol lamp at every step of the operation, I still found the same Bacterium in thousands in every preparation, but much the most numerous, as a rule, in the oldest specimens.

Careful search in the juices of the corn upon which the insects were feeding, failed to discover anything of the kind there. If a bug were thoroughly washed in a drop of distilled water, no Bacteria occurred in the water, showing that they were not derived from the surface of the insect. When a number of the bugs were kept for a week in a bottle without food, the Bacteria were found to have greatly increased in numbers, and were especially abundant in those which were recently dead. When the legs and head were cut off in a way to avoid injury to the alimentary canal, and crushed by themselves upon a slide, no Bacteria were found; and if the thorax and abdomen were crushed on separate slides, that containing the latter showed, as a rule, the greater numbers.

Careful dissections of the chinch bug were next made, for the purpose of ascertaining whether the seeming parasites could be traced to the alimentary canal. In five cases I succeeded in isolating the digestive organs, transferring them to a slide, and crushing them with the covers in distilled water. In all these cases the Bacteria were very abundant, and could be seen issuing from the stomach in adherent masses, and also in motion separately in all parts of the field. In two cases where a comparison could be made between the contents of the anterior and posterior parts of the canal, they were found much the most numerous in that part of the canal posterior to the malpighian tubes. On the other hand, Bacteria were also found in the water in which the dissections had been made; but as it is probable that the intestine was more or less torn in preparing the object, these may have escaped from its cavity. None were found in the ganglia of the nervous system in the only case in which I examined these structures for them. From all this I conclude that they have their principal, perhaps exclusive, seat in the alimentary canal.

Similar experiments made upon chinch bugs taken from the field, gave similar results throughout; but nothing of the sort could be detected in the fluids of corn plant louse (*Aphis maidis*) feeding upon the same stalks, nor in any of a number of insects examined.

To-day (Aug. 17) I noticed that the chinch bugs in the field from which most of those experimented on were taken, were much less numerous than three weeks ago; and many dead bugs, both young and old, were found behind the sheaths of the corn. The mortality, from whatever cause proceeding, had evidently taken principal effect on the older individuals, as in this field not more than two per cent. of those living had reached the "pupa" state, and no winged specimens were seen, while in other fields, from half a mile to a mile distant, about nine-tenths were pupæ, and many adults occurred. I collected a number of bugs, both living and dead, from this situation, and found the Bacteria excessively abundant in all examined.

The objectives used in these studies were usually Beck's tenth-inch water immersion and a No. 7 Gundlach. For a more careful study of the Bacteria, and for a comparison with *Bacterium termo*, I used, in conjunction with Professor T. J. Burrill (whose studies of Bacteria are well known), a tenth-inch Spencer's homogeneous immersion and a fifteenth-inch Tolles' of recent make, likewise a homogeneous immersion lens.—*S. A. Forbes, State Lab. of Nat. Hist., Normal, Ill.*

ON THE MOUTH OF THE LARVA OF CHRYSOPA.—Recently I had the opportunity of watching in a live box, under a low power of the microscope, the seizing and devouring of some plant-lice by the larva of an undetermined species of Chrysopa, and was interested in the manner in which it emptied the body of its victims. The jaws are large, hooked, pointed and tubular, with a small opening at or near the points. Approaching its prey the body of the Aphis is grasped by the hooked mandibles which at the same time pierce it. The Chrysopa larva remains stationary, and proceeds to pump its victim dry. At the base of each of the mandibles the integuments are dilated into a sac-like form capable of expansion and compression at will, a portion of the thorax is similarly constructed, and it is by the repeated dilating and compressing of these sacs that the fluid contents of the body of the Aphis are transferred through the tubular mandibles to the stomach of the Chrysopa larva.

When the abdomen of the Aphis has been emptied, the points of the mandibles of the Chrysopa larva are thrust in the thorax, and forward into the head in every direction, and in a few moments nothing remains of the once plump plant louse but a shrivelled skin. In the authors accessible, I can find no reference to these elastic bulb-like sacs at the base of the mandibles, nor to the peculiar structure of the thorax, which admits of its expansion and contraction as referred to.—*William Saunders, London, Ont., read before the A. A. A. S., at Montreal.*

MOTHS ATTRACTED BY FALLING WATER.—Mr. J. Starkie Gardner records in *Nature*, March 9, 1882, his observation made in Iceland, that the gleaming water-falls seem to be as attractive to moths as artificial light—moth after moth flying deliberately into the falling water. This fact can, of course, be observed best in a country like Northern Iceland where there is no night during the summer.

A NEW MUSEUM PEST.—Mrs. A. E. Bush, an esteemed correspondent of San José, Cal., complains lately in her letters of the ravages of a Dermestid in her insect collection, and from specimens, larvæ and imagos, lately sent to us, we find that the species in question, is the handsome *Perimegatoma variegatum* Horn. We do not find that this species was ever known before as a museum pest, and there is danger that it may become distributed in insect collections all over the country, just as have the other species of the same family, which are so well-known and dreaded by entomologists.

FLEAS FEEDING ON LEPIDOPTEROUS LARVÆ.—Mr. Chas. I. Boden records in the (London) *Entomologist* for March 1882, p. 71, that he observed fleas feeding upon Lepidopterous larvæ. The great abundance of fleas in our Southern States, in places remote from human habitations and where there are presumably few warm-blooded animals or none at all, may perhaps find explanation in this insect-feeding habit.

ANTHROPOLOGY.[1]

BRITISH ANTHROPOLOGY.—The York volume, 1881, of the British Association is at hand, and enables us to see what our brethren are doing. That portion of the work interesting to the readers of the NATURALIST will be the following:

The presidential address by Sir John Lubbock was a résumé of the progress of science during the fifty years of the association, and, as might be expected, contains valuable allusions to anthropology.

Professsor W. H. Flower chose as the theme of his opening speech before the department of anthropology, The low state of interest in anthropology in Britain compared with other countries.

The following papers are reported in abstracts:

The Viking's ship discovered in Sandefjord in Norway, 1880. By J. Harris Stone.

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[1] Edited by Professor OTIS T. MASON, 1305 Q street, N. W., Washington, D. C.